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EXAMINER

JARRETT, SCOTT L

ART UNIT

PAPER NUMBER

3623

DATE MAILED: 11/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/802,459

Applicant(s)

KOUNO ET AL.

Examiner

Scott L. Jarrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. This Office Action is responsive to Applicant's amendment filed September 28, 2005. Applicant amended claims 3-8 and 13-16; claim 17 being previously canceled. Claims 1-16 are currently pending in this application.

***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on September 20, 2001 (JP 2001-287883). It is noted, however, that applicant has not filed a certified copy of the foreign application as required by 35 U.S.C. 119(b).

***Response to Amendment***

3. Applicant's amendment filed on September 28, 2005 with respect to claims 1-16 has been accepted.

The USC 101 rejection of Claims 1-16 cited in the office action dated June 28, 2005 is withdrawn.

The USC 112 (2) rejection of Claims 3-6, 8 and 13 are cited in the office action dated June 28, 2005 are withdrawn in response to applicant's amendments to the claims.

***Response to Arguments***

4. Applicant's arguments filed September 28, 2005 have been fully considered but they are not persuasive.

In applicant's remarks filed September 28, 2005 applicant argues that:

- the prior art of record fails to teach all the recitations of the claims (Remarks: Pages 11-12), specifically the district sales number forecasting section, calculating a forecast sales number for each unit advertising district which are performing promotion activities at the same time or distributing to each shop in the district the forecast sales number (Remarks (Page 13);
- the prior art of record does not suggest or teach a motivation to combine Tenma et al., Singh et al. or Lam (Remarks: Pages 11-12);
- the recited sections/portions of the commodity sales forecasting system represent particular aspects of the present invention and therefore do not represent non-functional descriptive material (Remarks: Page 12); and
- requests support for the officially noticed facts (Remarks: Page 12-13).

In response to the applicant assertion that the prior art of record fails to teach all the recitations of the claimed invention the examiner respectfully disagrees.

Tenma et al. teach a computer-implemented profit management system and method wherein the system acquires, calculates, stores and analyzes profit (inherently

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commodity sales) for each level (unit, division, district, store, organization, region, macro unit, geography, etc.) information for a multi-level business wherein the profit data inherently comprises commodity (product, item, unit, good, etc.) sales for each level of the business (e.g. for each shop/store in a group of shops within a predetermined district; Abstract; Columns 13-18; Figures 4, 9, 11-12, 16 and 18a-18c; Equations 2-6).

Tenma et al. teach a computer implemented method for forecasting commodity sales at each shop in a group of shops wherein the system comprises one or more sections/portions (subsystems, modules, code, subroutines, etc.) which:

- calculate and display the hierarchical profit data, i.e. product sales for each level in the multi-level business (store, group, unit, store, group of stores, district, etc.; Column 4, Lines 42-56; Column 8, Lines 43-60; Column 13, Lines 14-53; Column 14, Lines 13-27; Figures 4, 16 Elements 771-776, 18a-18c as shown below);
- calculate individual shop section profit, sales and expenses by distributing (dividing, divvying, spreading, sharing, etc.) shop (store, district, group, etc.) commodity sales and sales to each section of the shop (store, location, etc.; Column 1, Lines 12-30 and 64-68; Column 2, Lines 1-11); and
- calculate shop sales by attributing shop product sales to each store based on the sales and other data retrieved (Figures 2, 4, 6 as shown below).

Singh et al. teach a system and method for predicting/forecast commodity (product) sales (demand) in multi-level businesses (Paragraph 0028) wherein the

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businesses conduct promotion activities which effect commodity sales forecast and further comprises one or more sections/portions (subsystems, subroutines, code, programs, applications, computers, etc.) which:

- forecast demand across multiple levels a business (Paragraph 0002) including geographical regions (districts) and individual stores within the regions (Paragraph 0024, 41-42; Figure 1);

- forecast commodity sales (demand) across the entire supply chain (business), within each level of the supply chain (Paragraph 0019); and

- take into account a plurality of factors that affect forecast commodity sales including but not limited to: causal factors (promotions, new market/product, competitor actions, etc.), buying trends, time, demand history and seasonal effects (Paragraphs 0007, 0023, 0035, 0055; Equations 1-4; Figures 4A-4C, 5).

Lam teaches a plurality of old and very well known facts related to the management of retail stores including but not limited to:

- the forecasting of commodity sales and a plurality of other performance metrics including but not limited to: store sales, traffic (visits, number of customers), transactions, average spending per customer; average transaction size (average purchase size; average spending per visitor, etc.; Page 4), product sales, attraction rate/effect, conversion rate, closing ratio, product category sales and the like (Page 20-23, 70-71; Figures 2-3; Table 3) enables store managers to forecast/plan such things as staffing needs (Page 28); and

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- the importance and impact of promotional activities (e.g. a store, group of stores and/or businesses performing sales promotional activities via a plurality of advertising medium - television, newspaper, Internet, radio, billboard, etc.) on businesses.

In response to applicant's assertion that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, each of the references, Tenma et al., Singh et al. and Lam, share a common field of endeavor namely the management of business process related to the sale/distribution of commodities (products/services) and therefore would have been known to those skilled in the art at the time of the invention.

In response to the applicant assertion that t sections/portions of the commodity sales forecasting system represent particular aspects of the present invention and therefore do not represent non-functional descriptive material the examiner respectfully disagrees.

Specifically the exact location within a computer system of a particular piece of functionally represents at best an obvious design choice which in the present case clearly does not affect the overall ability of the system to provide forecasted commodity sales information for a plurality of stores in a region/district. For example if the system were to use an object-oriented approach the system would contain a plurality of objects representing each of the actors in the system including for example the stores, a district/region, commodities, promotions and the like; whether the portion of the system (e.g. specific piece of code, algorithm, subroutine, class, etc.) that calculates the forecasted commodity sales number was in object A vs. object B would not effect the ability of the system to execute the computerized method of the instant application. Similarly if two inventors where to claim a computer implement sales forecasting method implemented/coded wherein the first inventor claims that the system is implemented using Java and the second inventor claims that the system is implemented in C the inventions would be patentably indistinguishable.

Further the exact name given to the portion of a computer system where a particular/specific function/activity is carried out does not affect the overall system. Therefore it would have been obvious in light of the prior art and to one skilled in the art at the time of the invention that in what section/portion of the computer implement commodity-forecasting method calculated the plurality of numbers, indices and/or ratios would have resulted in the method steps being performed the same regardless of the specific portion of the system performing the calculations/determinations. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms



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of patentability, see *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP 2106.

In response to applicants request for support for the officially noticed facts the examiner cited, in the office action dated June 28, 2005, one or more appropriate references, for each of the officially noticed facts, each of which clearly teach and/or suggest the officially noticed fact(s).

Further it is noted that the Applicant(s) attempt at traversing the Official Notice findings as stated in the previous Office Action is inadequate. Adequate traversal is a two-step process. First, Applicant(s) must state their traversal on the record. Second and in accordance with 37 C.F.R. 1.111(b) which requires Applicant(s) to specifically point out the supposed errors in the Office Action, Applicant(s) must state why the Official Notice statement(s) are not to be considered common knowledge or well known in the art.

In this application, while Applicant(s) have clearly met step (1), Applicant(s) have failed step (2) since they have failed to argue why the Official Notice statement(s) are not to be considered common knowledge or well known in the art. Because Applicant(s)' traversal is inadequate, the Official Notice statement(s) are taken to be admitted as prior art. See MPEP 2144.03.

***Claim Objections***

5. Claims 1-16 are objected to because of the following informalities: the claims are merely configured to perform a plurality of calculations/actions but do not actually perform the calculations/actions, as cited in the office action dated June 28, 2005. Appropriate correction is required.

***Title***

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: A System and Method for Forecasting  
Commodity Sales in a Group of Shops in a Predetermined Advertising District.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tenma et al., U.S. Patent No. 5,237,498 in view of Singh et al., U.S. Patent Publication No. 2002/0169657 and further in view of Lam, Uncovering the Multiple Impact of Retail Promotion on Apparel Store Performance (1998).

9. Regarding Claim 1, the computer-implemented commodity forecasting system as claimed is merely **configured to** determine forecast sales for districts and shops, however the system does not actually perform the calculations. For the purposes of examination examiner assumes the applicant will amend the claim to recite that system actually calculates the sales for districts and shops.

Further the phrases "district sales number forecasting section" and "shop sales number forecasting section" represent non-functional descriptive material since it is obvious in light of the prior art and to one skilled in the art that where (in what section, portion, subsystem, routine, code, segment, object, etc.) the calculations are performed by the system or it's subsystems (components, sections, code, routines, etc.) does not change the overall functionality of the system.

Tenma et al. teach a computer-implemented profit management system and method wherein the system is configured to acquire, calculate, store and analyze profit for each level (unit, division, district, store, organization, region, macro unit, geography, etc.) information for a multi-level business, such as a retail chain, wherein the profit data includes commodity (product, item, unit, good, etc.) sales at each level of the business (e.g. for each shop/store in a group of shops within a predetermined district; Abstract; Columns 13-18; Figures 4, 9, 11-12, 16 and 18a-18c; Equations 2-6). Tenma et al. teach that profit and commodity sales are defined as (Column 4, Lines 1-15):

$$\text{profit} = \text{commodity\_sales} - \text{costs} ,$$

$$\text{commodity\_sales} = \text{sellingprice\_product} * \text{no\_products\_sold}$$

Tenma et al. further teach that the profit analysis is conducted for all levels (districts, groups, sections, portions, etc.) of the multi-level business including but not limited to: the entire business (headquarters), a group of stores, individual stores, individual store sections (departments, groups, units organizations, etc.) and products. Tenma et al. teach that the profit management system and method provides a plurality of business performance information (data, metrics, values, numbers, etc.) including but not limited to: number of products sold, product purchase price, commodity sales, point of sales transactions and the like to various levels of management (Abstract; Column 1, Lines 13-27; Column 2, Lines 55-67; Figures 2, 4, 18a-18c as shown below).

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More specifically Tenma et al. teach a profit management system and method wherein commodity (service, product, good, item, unit, etc.) sales (number, volume, amount, value, etc.) are calculated for each shop (store, location, unit, outlet, etc.) within a group of shops within the business (district, region, area, division, geography, organization, etc.) comprising:

- calculating and displaying the hierarchical profit data, i.e. product sales for each level in the multi-level business (store, group, unit, store, group of stores, district, etc.; Column 4, Lines 42-56; Column 8, Lines 43-60; Column 13, Lines 14-53; Column 14, Lines 13-27; Figures 4, 16 Elements 771-776, 18a-18c as shown below);

- calculating individual shop section profit, sales and expenses by distributing (dividing, divvying, spreading, sharing, etc.) shop (store, district, group, etc.) commodity sales and sales to each section of the shop (store, location, etc.; Column 1, Lines 12-30 and 64-68; Column 2, Lines 1-11); and

- calculating shop sales by attributing shop product sales to each store based on the sales and other data retrieved (Figures 2, 4, 6 as shown below).

FIG. 2

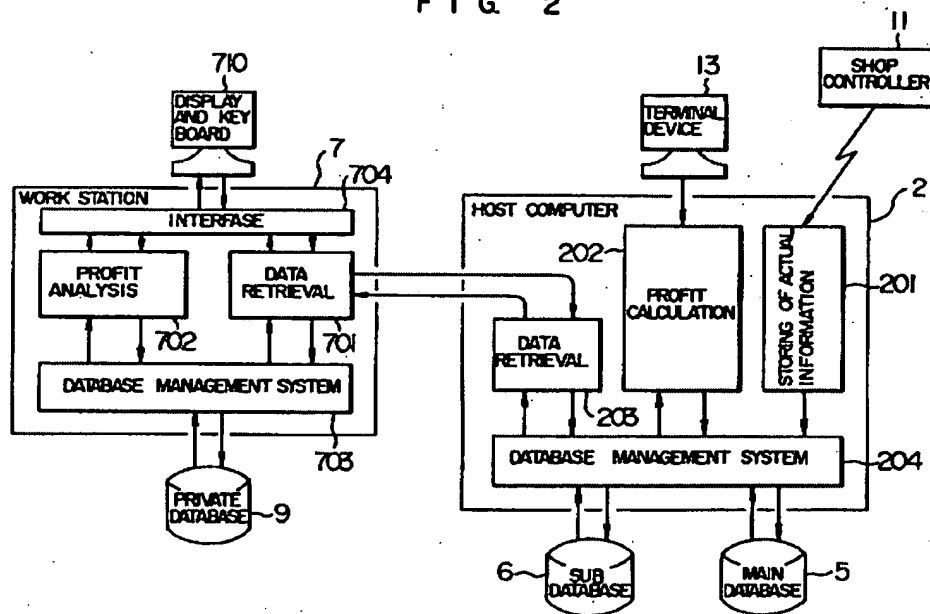


Figure 1: Tenma et al., Figure 2

FIG. 16

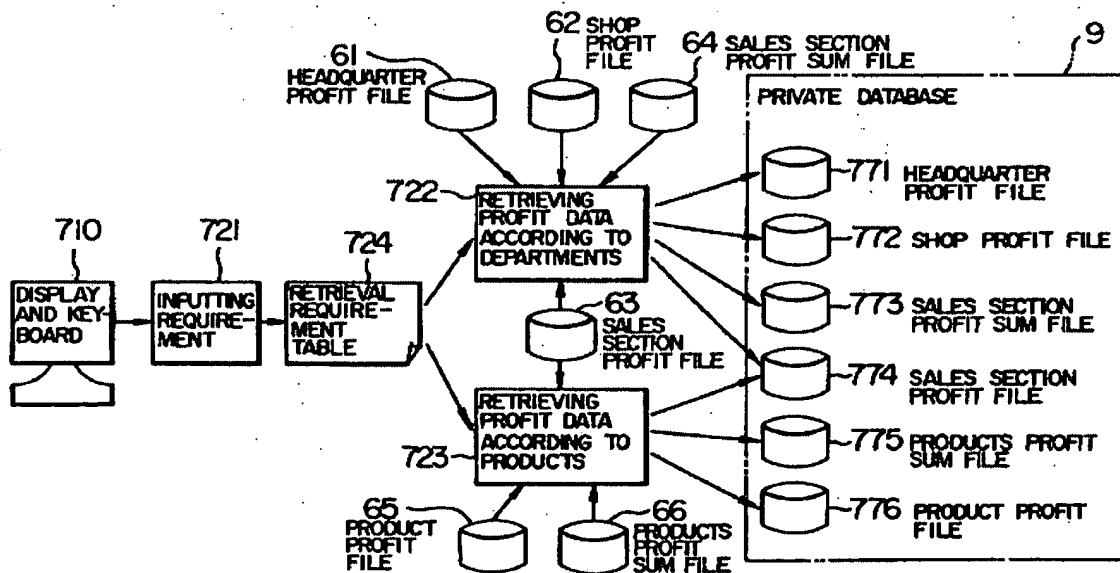


Figure 2: Tenma et al., Figure 16

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FIG. 18a

710

WHAT KIND OF RETRIEVAL ?

1. ACCORDING TO DEPARTMENTS

2. ACCORDING TO PRODUCTS

SELECT ONE OF THE TWO

FIG. 18b

PERIOD ?

---/---/---~---/---/---

RANGE ?

1. ALL SHOPS

2. SPECIFIED SHOP

NAME OF SHOPS:-----

710

FIG. 18c

710

PERIOD ?

---/---/---~---/---/---

RANGE ?

NAME OF SALES COUNTER:

-----

1. ALL SHOPS

2. SPECIFIED SHOP

NAME OF SHOP:-----

FIG. 18d

Figure 3: Tenma et al., Figures 18a-18c

F I G. 4

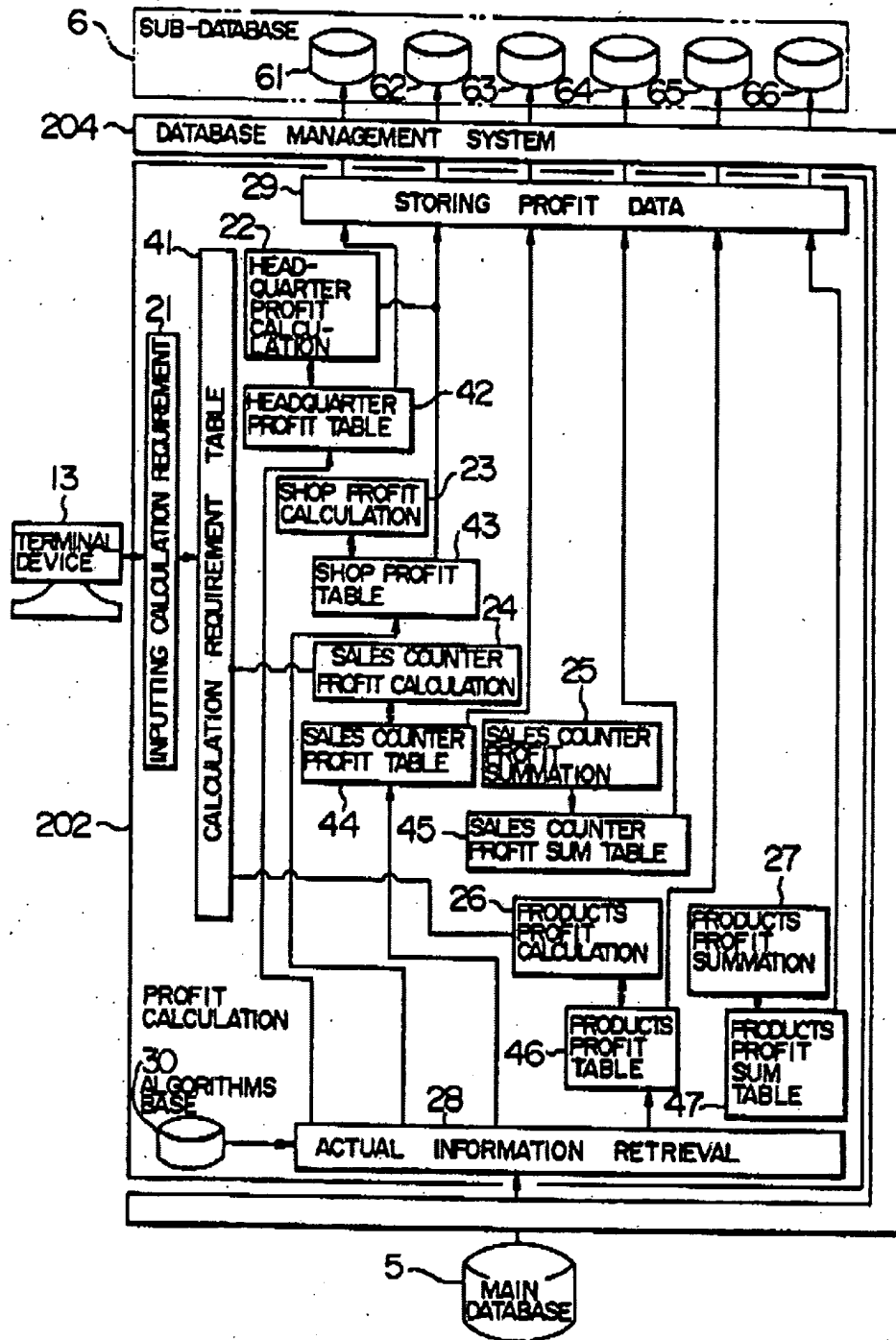


Figure 4: Tenma et al., Figure 4



Tenma et al. does not expressly teach that the profit management system forecasts business metrics or that the business (e.g. retail chain and it stores) engages in promotional activities.

Singh et al. teach a sales/demand forecasting method and system wherein members of the supply chain (multi-level business) utilize promotional activities (Abstract), in an analogous art of business management, for the purposes of proactively forecasting and planning of sales/demand across multiple levels of a supply chain (multi-level business; Paragraph 0002).

More generally Singh et al. teach a system and method for predicting future customer demand (sales) by enabling multi-level businesses to understand customer demand drivers (e.g. promotional activities) and to utilize the insights gained to unify/optimize the supply chain planning process (Paragraph 0028).

Singh et al. further teach that the demand forecasting and planning system further comprises:

- the ability to forecast demand across multiple levels of the supply chain (Paragraph 0002) including but not limited to geographical regions (districts) and individual stores (Paragraph 0024, 41-42; Figure 1);
- the ability to forecast demand for products across the entire supply chain (business), within each level of the supply chain (Paragraph 0019);
- the utilization of a plurality of factors effecting demand including but not limited to: causal factors (promotions, new market/product, competitor actions, etc.), buying

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trends, time, demand history and seasonal effects (Paragraphs 0007, 0023, 0035, 0055; Equations 1-4; Figures 4A-4C, 5);

- the utilization of a plurality of data sources including but not limited to point of sales, customer orders, returns, etc. (Abstract; Paragraph 0021); and
- the ability to utilize a plurality of well-known or proprietary demand forecasting algorithms, techniques, methods, etc. (Paragraph 0021; Figure 2).

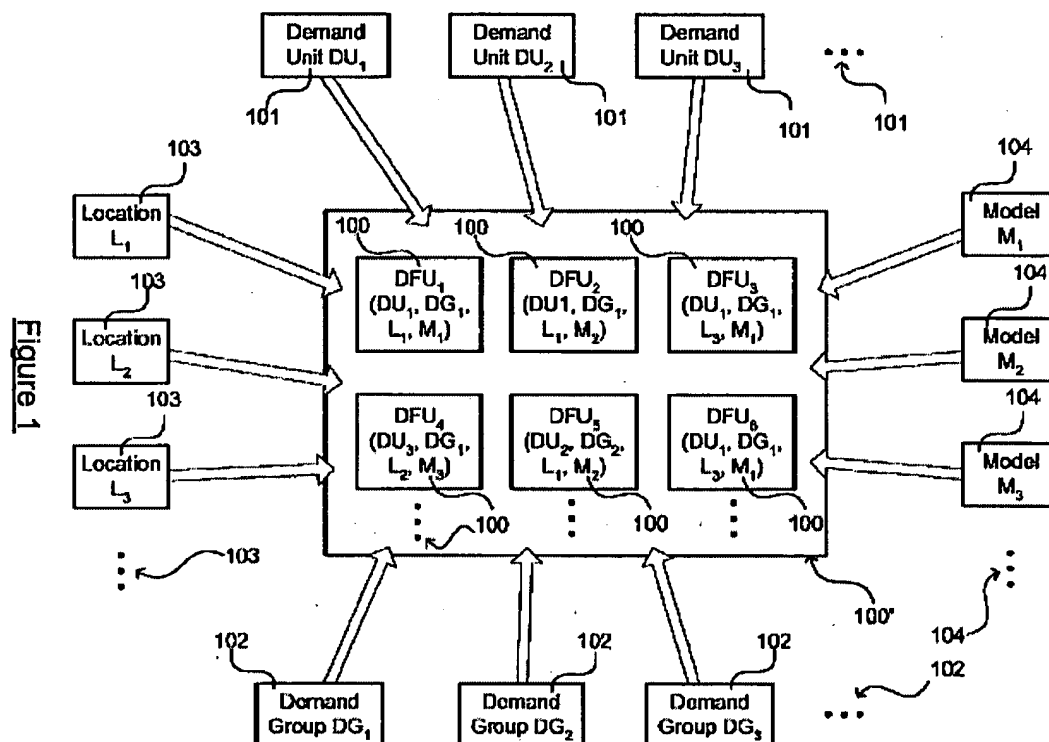


Figure 5: Singh et al., Figure 1

Figure 8

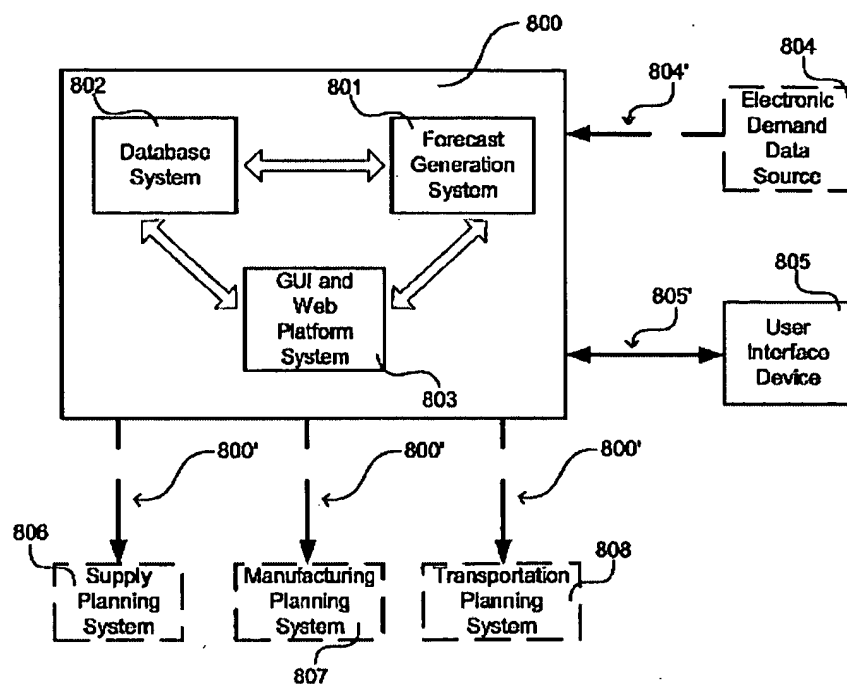


Figure 6: Singh et al., Figure 8

It would have been obvious to one skilled in the art at the time of the invention that the profit and performance management system, with its ability to collect, analyze and report on business performance information, as taught by Tenma et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand, profit, etc.) in view of the teachings of Singh et al.; the resultant system enabling multi-level businesses more efficiently plan and manage the business strategies by enhancing the systems information to include forecasted sales (demand) and profits (Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028).

Lam teaches the well-known use of marketing (promotions, advertising) in retail stores, in an analogous art of store/business management, for the purposes of analyzing the effects of promotional activities (signage, store layout, advertising, etc.) on store performance (e.g. profit; Pages 1, 5, 14). Lam further teaches that the importance and impact of promotional activities (e.g. a store, group of stores and/or businesses performing sales promotional activities via a plurality of advertising medium - television, newspaper, Internet, radio, billboard, etc.) on businesses is old, well-known and widely studied. Lam teaches that the forecasting of store performance metrics (sales, traffic, volume, etc.) enables store managers to forecast/plan such things as staffing needs (Page 28).

Lam teaches that the method utilizes well-known store performance metrics and data including but not limited to: store sales, traffic (visits, number of customers), transactions, average spending per customer; average transaction size (average purchase size; average spending per visitor, etc.; Page 4), product sales, attraction rate/effect, conversion rate, closing ratio, product category sales and the like (Page 20-23, 70-71; Figures 2-3; Table 3). Specifically Lam teaches that the average spending per customer (e.g. sales/forecast index/ratio/proportion) is defined as:

$$\text{average\_spending} = \frac{\text{storeSales}}{\text{numberOfTransaction}} \quad (\text{Eq. 3, Page 21})$$

Additionally Lam teaches comparing the performance metrics of several stores for benchmarking retail/store performance (Page 93).

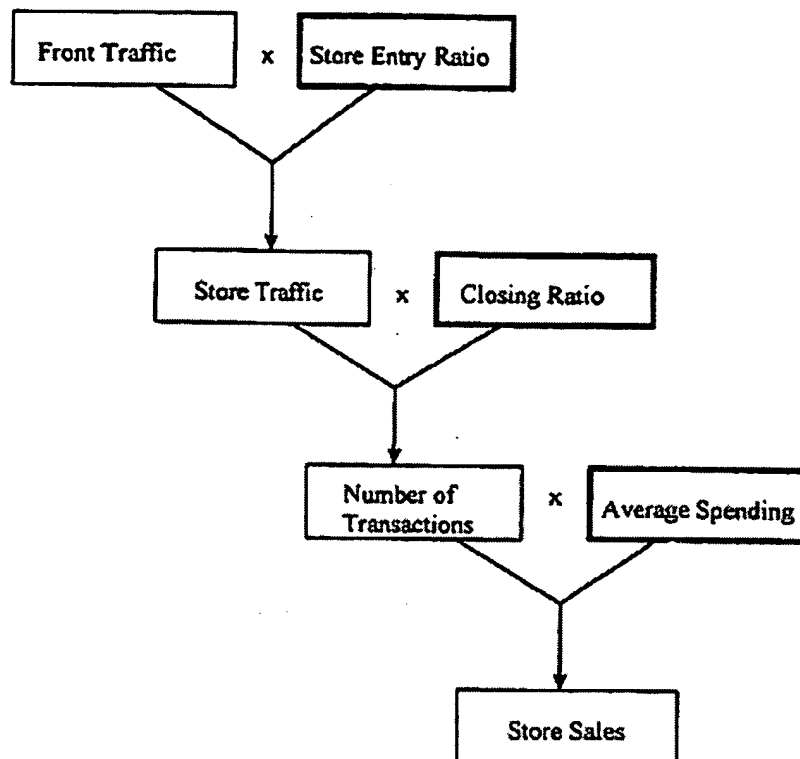


Figure 7: Lam, Figure 2, Page 23

It would have been obvious to one skilled at the time of the invention that the profit management system and method, with its ability to collect, analyze, forecast and report on a plurality of business performance metrics, as taught by the combination of Tenma et al. and Singh et al. would have benefited from including in its profit analysis and forecasts data related to the promotional activities of the plurality of stores, groups of stores and/or an entire business in view of the teachings of Lam; the resultant system providing additional insight into the performance (e.g. profit) of the stores/business being analyzed as well as enhancing the data utilized for business planning/management purposes (Tenma et al.: Column 3, Lines 55-60).

10. Regarding Claim 2, the computer-implemented commodity forecasting system as claimed is merely **configured to** determine a forecast sales ratio and a forecast sales, however the system does not actually perform the calculations. For the purposes of examination examiner assumes the applicant will amend the claim to recite that system actually calculates the forecast sales ratio and forecast sales.

Further the phrases "district ratio calculating portion" and "district sales number portion" represent non-functional descriptive material since it is obvious in light of the prior art and to one skilled in the art that where (in what section, portion, subsystem routine, code, segment, object, etc.) the calculations are performed by the system or it's subsystems (components, sections, code, routines, etc.) does not change the overall functionality of the system.

Tenma et al. teach a profit management system and method wherein the system:

- calculates the sales/profit for each of a plurality of stores, group of stores, levels, etc. as discussed above;
- calculates the sales/profit for the entire business (headquarters) based on the sales/profits at the plurality of stores, group of stores, organization, levels, etc. (Column 4, Lines 1-56; Columns 13-16; Figures 4, 18a-18c); and
- compares the sales/profit of the products sold in order to identify "good sellers and bad sellers." (Column 3, Lines 54-59).

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Tenma et al. does not expressly forecasting business performance metrics, calculating a sales ratio or calculating the commodity sales for a group of shops using commodity for a shop and a sales ratio as claimed and shown below:

$$SalesRatio = \frac{(Total\_CommoditySales\_ForAShop)}{(Total\_CommoditySales\_ForGroupOfShops)}$$

$$CommoditySales\_ForGroupOfShops = f(TotalCommoditySales\_ForAShop, SalesRatio)$$

*Note: The functional notation utilized in the above equation should be interpreted to mean "The commodity sales for a group of shops is an (unspecified) function of the total commodity sales for a shop and the sales ratio." The term function should be interpreted to mean any of the following: a relationship, procedure, formula, method or the like involving the subject (output, result, left hand side of equation) and the inputs (the right hand side of the equation).*

Singh et al. teach a sales forecasting method and system wherein members of the supply chain utilize promotional activities (Abstract), in an analogous art of business performance management, for the purposes of proactively forecasting and planning of sales/demand across multiple levels of a supply chain (multi-level business; Paragraph 0002).

It would have been obvious to one skilled in the art at the time of the invention that the profit management system, with its ability to collect, analyze and report on a

plurality of business performance metrics (e.g. commodity sales, profits, etc.), as taught by Tenma et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand, profit, etc.) in view of the teachings of Singh et al.; the resultant system enabling business to more effectively plan and manage their business by anticipating demand (e.g. forecasting sales and their impact on the business; Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028).

Singh et al. does not expressly teach calculating the sales ratio or the commodity sales for a group of shops as a function of the commodity sales of a shop and the sales ratio as claimed and shown above.

While both Tenma et al. and Lam teach the comparison of sales data (e.g. product sales, store performance, etc.) as discussed above neither Tenma et al. nor Lam expressly teach calculating a sales ratio or the commodity sales for a group of shops as a function as claimed and shown above.

Official notice is taken that the two calculations (equations) as claimed represent a **single** equation/calculation wherein one can readily convert/transform from one form of the equation into the other form of the equation utilizing basic mathematical operations (division and multiplication) as shown below:

$$(TotalCommoditySales\_ForGroupOfShops) = \frac{(TotalCommoditySales\_ForAShop)}{SalesRatio}$$



alternatively written as:

$$\text{CommoditySales\_ForGroupOfShops} = f(\text{TotalCommoditySales\_ForAShop, SalesRatio})$$

i.e. the function calculates the forecasted commodity sales (number, figure, amount, etc.) for a group of shops (advertising unit) using the total commodity sales per shop (within the group) and the sales ratio.

Official notice is taken that it is old and very well-known to calculate the a ratio wherein the (sales) ratio (proportion, percentage, index, fraction, etc.) represents the contribution (past, present, future) of a part to a whole; more specifically the sales contribution of a specified part (e.g. a single store, group of stores, division, person, etc.) of the business to the overall performance (e.g. profit, sales, etc.) of a business or group of businesses as evidenced by:

- Tucker, Handbook of business formulas and controls (1979; Segmental Profit, Profit of a Sales Office, Profit of a Business Segment, Contribution of a Business Segment or Unit; Pages 35, 41-44);

- Pearce, Retail Marketing Management (1992; Pages 53, 70-75); and the following examples:

- Example one, it is a common business management practice to set sales quotas for a division of a company based on forecasted sales wherein the division's performance is rated on its achievement (attainment, performance) of the sales quota

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wherein the sales quota is a ratio of the division forecasted sales to the overall businesses sales.;

- Example two, it is common business practice to compare the performance of one or more retail stores in a retail chain based on geography/location, product mix, etc. wherein the a sales ratio is calculated to determine (compare, contrast) the expected/forecasted percentage contribution or relative performance of an individual shop's sales (area, region, location, site, unit, division, etc.) to the sales of a group of shops (advertising unit, group, district, division, etc.); alternatively the sales ratio expressed as:

$$SalesRatio = \frac{(Total\_CommoditySales\_ForAShop)}{(Total\_CommoditySales\_ForGroupOfShops)}$$

The sales ratio providing valuable insight into the relative performance of stores or the expected performance/quota for a store (unit, region, area, location, division, etc.) and enables the store/business to plan staffing, inventory and other business functions and resource requirements in anticipation of the forecasted sales.

It would have been obvious to one skilled in the art at the time of the invention that the profit management system, with its ability to collect, analyze, forecast and report on a plurality of business performance metrics (e.g. commodity sales, profits, etc.), as taught by the combination of Tenma et al. and Singh et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand,

profit, etc.) including the calculation of a sales ratio and forecasted commodity sales; the resultant system enabling the multi-level business to more effectively plan and manage each level (store, shop, group, division, unit, district) of their business by forecasting demand and setting business performance goals for each level ; the forecast/plan enabling managers at the various level of the business to more effectively manage and monitor their performance as well as their contribution to the overall business's performance (e.g. achievement of their objectives/goals).

11. Regarding Claim 3 the phrases "district ratio calculating portion" and "district sales number portion" represent non-functional descriptive material since it is obvious in light of the prior art and to one skilled in the art that where (in what section, portion, subsystem routine, code, segment, object, etc.) the calculations are performed by the system or it's subsystems (components, sections, code, routines, etc.) does not change the overall functionality of the system.

Tenma et al. teach a profit management system and method wherein the system stores, calculates and analyzes a plurality of business information including but not limited to commodity sales for each level of a multi-level business as discussed above and further wherein the commodity (e.g. product mix, stocked items, etc.) consists of a plurality of unit goods (products, items, units, "unit products", etc.; Column 12, Lines 25-50; Column 13, Lines 48-53).

Tenma et al. does not expressly teach that the performance management system forecasts business metrics/values, acquires a ratio of the commodity sales number to a forecasted total number of visitors (e.g. average spending/purchase per customer) or calculates the total sales number for each commodity in a group of stores (e.g.

*TotalSales = avg \_ CustomerPurchase \* NoCustomers*) from the ratio and the forecasted total number of visitors as claimed and shown below:

$$ratio = \frac{(CommoditySales)}{(Visitors\_GroupOfShops)}$$

$$CommoditySales = f(ratio, Visitor\_GroupOfShops)$$

Singh et al. teach a sales forecasting system and method wherein members of the supply chain utilize promotional activities (Abstract), in an analogous art of business management, for the purposes of proactively forecasting and planning of sales/demand across multiple levels of a supply chain (multi-level business; Paragraph 0002).

It would have been obvious to one skilled in the art at the time of the invention that the profit management system, with its ability to collect, analyze and report on a plurality of business performance metrics (e.g. commodity sales, profits, etc.), as taught by Tenma et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand, profit, etc.) in view of the teachings of Singh et al.;

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the resultant system enabling businesses to more effectively plan and manage their business by anticipating demand (e.g. forecasting sales and their impact on the business; Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028).

Lam teaches that average spending, the number of visitors to a store and store sales are key performance metrics, in an analogous art of store performance management, and that these performance metrics are calculated for the purposes of understanding a stores performance as well as the impact of promotional activities on store performance (Pages 21-23; Equations 1-3; Figure 2 as shown above).

Specifically Lam teaches the average spending (purchase, sales per customer) is:

$$average\_spending = \frac{store\_sales}{number\_transactions}$$

or alternatively written, utilizing Lam's equations (1) and (2) as

$$ratio = \frac{(UnitSales)}{(Visitors / Traffic)}$$

Official notice is taken that the two calculations (equations) as claimed represent a **single** equation/calculation wherein one can readily convert/transform from one form

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of the equation into the other form of the equation utilizing basic mathematical operations.

Official notice is taken that sales (commodity sales, store sales, etc.) can be calculated using the following equation is old and well known, as evidenced by Pearce (Pages 55-60; Figures 3.2-3.6)

$$UnitSales = ratio * Visitors\_GroupOfShops$$

It would have been obvious to one skilled in the art at the time of the invention that the profit and performance management system, with its ability to collect, analyze, forecast and report on a plurality of business metrics (commodity sales, profit, etc.), as taught by the combination of Tenma et al. and Singh et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand, profit, etc.) specifically determining the average purchase per customer/visitor and the total commodity sales for a group of stores based on the average purchase per customer and the forecasted number of customers in view of the teachings of Lam and official notice; the resultant system enabling multi-level businesses to more efficiently plan and manage the business strategies by enhancing the systems information to include forecasted sales (demand) and profits (Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028).

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12. Regarding Claim 4, the phrase “district sales number calculating portion” represents non-functional descriptive material since it is obvious in light of the prior art and to one skilled in the art that where (in what section, portion, subsystem, routine, code, segment, object, etc.) the calculations/operations are performed by the sales forecasting system or it's subsystems (components, sections, code, routines, etc.) does not change the overall functionality of the system.

Tenma et al. teach a profit management system and method wherein the system collects, stores, analyzes and reports on a plurality of historical (past) business data (metrics, information, commodity sales, purchase price, etc; Column 4, Lines 35-42).

Tenma et al. does not expressly teach that the business (e.g. retail chain and it stores) engages in promotional activities or forecasts business metrics as claimed.

Singh et al. teach a sales forecasting system and method, in an analogous art of business performance management, for the purposes of proactively forecasting and planning of sales/demand across multiple levels of a supply chain (multi-level business; Paragraph 0002) wherein the forecasting of sales/demand is based on a plurality of historical data streams/feeds (past achievement) that include promotional activities (Paragraph 0048; Figure 2) i.e. forecasted sales are a function of historical data as shown in the following equation:

$$\text{ForecastedSales} = f(\text{historical\_data})$$

It would have been obvious to one skilled in the art at the time of the invention that the profit management system, with its ability to collect, analyze and report on a plurality of business performance metrics (e.g. commodity sales, profits, etc.), as taught by Tenma et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand, profit, etc.) in view of the teachings of Singh et al.; the resultant system enabling businesses to more effectively plan and manage their business by anticipating demand (e.g. forecasting sales and their impact on the business; Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028).

Lam teaches the well-known use of marketing (promotions, advertising) in retail stores, in an analogous art of business management, for the purposes of analyzing the effects of promotional activities (signage, store layout, advertising, etc.) on store performance (e.g. profit; Pages 1, 5, 14) on store performance (profit, sales, traffic, etc.). Lam teaches that the importance and impact of promotional activities (e.g. a store, group of stores and/or businesses performing sales promotional activities via a plurality of advertising medium - television, newspaper, Internet, radio, billboard, etc.) on businesses is old, well-known and widely studied. Lam further teaches that the forecasting of store performance metrics (sales, traffic, volume, etc.) enables store managers to forecast/plan business activities such as staffing needs (Page 28).



It would have been obvious to one skilled at the time of the invention that the profit management system and method, with its ability to collect, analyze, forecast and report a plurality of business performance metrics, as taught by the combination of Tenma et al. and Singh et al. would have benefited from including in its profit analysis data related to the promotional activities of the multi-level business in view of the teachings of Lam; the resultant system providing additional insight into the performance and profit of the stores/business being analyzed as well as enhancing the data utilized for business planning/management (Tenma et al.: Column 3, Lines 55-60).

13. Regarding Claim 5 the computer-implemented commodity forecasting system as claimed is merely **configured to** determine a forecast index, forecast ratio and forecast sales, however the system does not actually perform the calculations/operations. For the purposes of examination examiner assumes the applicant will amend the claim to recite that system actually calculates a forecast index, forecast ratio and forecast sales.

Further the phrases "district purchasing trend forecasting section", "shop purchasing trend forecasting section" and "shop commodity sales number calculating section" represent non-functional descriptive material since it is obvious in light of the prior art and to one skilled in the art that where (in what section, portion, subsystem routine, code, segment, object, etc.) the calculations are performed by the sales forecasting system or it's subsystems (components, sections, code, routines, etc.) does not change the overall functionality of the system.

Tenma et al. teach a computer-implemented profit management system and method wherein the system acquires, calculates, stores and analyzes profit for each level (unit, division, district, store, organization, region, macro unit, geography, etc.) of a multi-level business, such as a retail chain, wherein the profit data includes commodity (product, item, unit, good, etc.) sales at each level of the business (e.g. for each shop/store in a group of shops within a predetermined district; Abstract; Columns 13-18; Figures 4, 9, 11-12, 16 and 18a-18c; Equations 2-6). Tenma et al. teach that profit and commodity sales are defined as (Column 4, Lines 1-15):

$$\text{profit} = \text{commodity\_sales} - \text{costs}$$

$$\text{commodity\_sales} = \text{sellingprice\_product} * \text{no\_products\_sold}$$

Tenma et al. further teaches the comparison of sales/profit of the products sold in order to identify "good sellers and bad sellers.", (Column 3, Lines 54-59).

Tenma et al. does not expressly teach that the business (e.g. retail chain and it stores) engages in promotional activities, forecasts business metrics, calculates a forecast index representing a customer's purchasing trend (e.g. average purchase per customer), calculating a forecast ratio of the forecast index for a shop to the forecast index of a group of shops (e.g. average purchase per customer at a shop divided by the average purchase per customer at a group of shops), calculating a commodity sales

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number from (as a function of) the forecast index, forecast ratio and the forecasted number of visitors/customers as claimed and shown below.

$$ForecastIndex\_GroupOfShops$$

$$ForecastRatio = \frac{(ForecastIndex\_Shop)}{(ForecastIndex\_GroupOfShops)}$$

$$CommoditySales = f(ForecastIndex, ForecastRatio, Visitors\_Shop)$$

Singh et al. teach a sales forecasting method, in an analogous art of business performance management, for the purposes of proactively forecasting and planning of sales/demand across multiple levels of a supply chain (multi-level business; Paragraph 0002).

It would have been obvious to one skilled in the art at the time of the invention that the profit management system, with its ability to collect, analyze and report on a plurality of business performance metrics (e.g. commodity sales, profits, etc.), as taught by Tenma et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand, profit, etc.) in view of the teachings of Singh et al.; the resultant system enabling business to more effectively plan and manage their

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business by anticipating demand (e.g. forecasting sales and their impact on the business; Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028).

Lam teaches that average spending (i.e. forecast index representing a customer's purchasing trend), the number of visitors to a store and store sales are key performance metrics, in an analogous art of business performance management, and that these performance metrics are calculated for the purposes of understanding a store's performance as well as the impact of sales promotional activities on store performance (Pages 21-23; Equations 1-3; Figure 2 as shown above).

Specifically Lam teaches the average spending (purchase, sales per customer) is:

$$average\_spending = \frac{store\_sales}{number\_transactions}$$

or alternatively written, utilizing Lam's equations (1) and (2) as

$$ratio = \frac{(UnitSales)}{(Visitors / Traffic)}$$

Additionally Lam teaches comparing the performance metrics of several stores for benchmarking retail/store performance (Page 93).

While both Tenma et al. and Lam teach the comparison of sales/profit data (e.g. product sales, store performance, etc.) neither Tenma et al. nor Lam expressly teach calculating a forecast ratio of the forecast index for a shop to the forecast index of a group of shops (e.g. average purchase per customer at a shop divided by the average purchase per customer at a group of shops) or a commodity sales number from the forecast index, forecast ratio forecasted number of visitors/customers as claimed and shown above.

Official notice is taken that it is old and very well-known to calculate a ratio (forecast) wherein the ratio (proportion, percentage, index, fraction, etc.) compares the performance (past, present, future) of a part to a whole; more specifically the sales per customer (forecast index) of a specified part (e.g. a single store, group of stores, division, person, etc.) to the overall sales per customer (forecast index) of a business or group of businesses as evidenced by:

- Tucker, Handbook of business formulas and controls (1979; Segmental Profit, Profit of a Sales Office, Profit of a Business Segment, Contribution of a Business Segment or Unit Pages 35, 41-44); and
- Pearce, Retail Marketing Management (1992; Pages 53, 70-75).

Official notice is taken that it is old and well known that commodity sales is a function of (can be calculated/determined from, is related to, etc.) the average purchase per customer (forecast index), the ratio of the average purchase per customer per store

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to the average purchase per customer for a group of stores (forecast ratio) and the forecasted number of visitors/customers as claimed and shown above.

It would have been obvious to one skilled in the art at the time of the invention that the profit and performance management system, with its ability to collect, analyze, forecast and report on a plurality of business metrics (commodity sales, profit, etc.), as taught by Tenma et al. and Singh et al.; would have benefited from forecasting business performance a plurality of business performance metrics (sales, demand, profit, etc.) specifically determining and comparing the average purchase per customer/visitor and the total commodity sales for a group of stores based on the average purchase per customer and the forecasted number of customers in view of the teachings of Lam and official notice; the resultant system enabling the multi-level business to more effectively plan and manage each level (store, shop, group, division, unit, district) of their business by forecasting demand and setting business performance goals for each level; the forecast/plan enabling managers at the various level of the business to more effectively manage and monitor their performance as well as their contribution to the overall business's performance (e.g. achievement of their objectives/goals).

14. Regarding Claim 6 the phrase "shop purchasing trend forecasting section" represents non-functional descriptive material since it is obvious in light of the prior art and to one skilled in the art that where (in what section, portion, subsystem, routine, code, segment, object, etc.) the calculations are performed by the sales forecasting

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system or it's subsystems (components, sections, code, routines, etc.) does not change the overall functionality of the system.

Tenma et al. teach a profit management system and method wherein the system collects, analyzes, stores (historical sales/performance data) and reports on a plurality of business performance metrics (commodity sales, profit, purchase price, etc.) for a multi-level business as discussed above. Tenma et al. further teaches the comparison of sales/profit of the products sold in order to identify "good sellers and bad sellers.", (Column 3, Lines 54-59).

Tenma et al. does not expressly teach that the profit management system and method forecasts business metrics or calculates a forecast ratio by comparing (visual inspection, mathematical operation, artificial intelligence, etc.) a ratio of the forecasted commodity sales to the forecasted number of visitors in an advertising district (group of shops, unit, etc.) based on historical data (past achievements) and a ratio of the forecasted commodity sales of a shop to the forecasted number of visitors (e.g. average purchase price per customer) as claimed and as shown below.

$$ForecastRatio = f\left(\frac{(CommoditySales\_GroupOfShops(historical))}{(Visitors)}, \frac{CommoditySales\_Shop}{Visitors}\right)$$

Singh et al. teach a sales forecasting system and method, in an analogous art of business management and planning, for the purposes of proactively forecasting and

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planning of sales/demand across multiple levels of a supply chain (multi-level business; Paragraph 0002) based on historical data.

It would have been obvious to one skilled in the art at the time of the invention that the profit management system, with its ability to collect, analyze and report on a plurality of business performance metrics (e.g. commodity sales, profits, etc.), as taught by Tenma et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand, profit, etc.) based on the collected historical business data in view of the teachings of Singh et al.; the resultant system enabling business to more effectively plan and manage their business by anticipating demand (e.g. forecasting sales and their impact on the business; Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028).

Singh et al. does not expressly teach the calculation of a forecast ratio as claimed and as shown above.

Lam teaches that average spending (i.e. forecast index/ratio representing a customer's purchasing trend), the number of visitors to a store and store sales are key performance metrics, in an analogous art of business performance management, and that these performance metrics are calculated for the purposes of understanding a stores performance as well as the impact of sales promotional activities on store



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performance (e.g. profit, sales, store traffic, etc.; Pages 21-23; Equations 1-3; Figure 2 as shown above).

Additionally Lam teaches comparing the performance metrics of several stores for benchmarking retail/store performance (Page 93).

While both Tenma et al. and Lam teach the comparison of sales/profit data (e.g. product sales, store performance, etc.) neither Tenma et al. nor Lam expressly teach calculating a ratio (forecast ratio) by comparing a ratio of the forecasted commodity sales in an advertising district (group of shops, unit, etc.) based on historical data (past achievements) to the forecasted number of visitors and a ratio of the forecasted commodity sales of a shop to the forecasted number of visitors (e.g. average purchase price per customer) as claimed and as shown above.

Official notice is taken that it is old and very well-known to calculate a ratio (forecast ratio) wherein the ratio (proportion, percentage, index, fraction, etc.) compares the performance (past, present, future) of a part to a whole; more specifically the sales per customer (forecast index/ratio) of a specified part (e.g. a single store, group of stores, division, person, etc.) of a business to the overall sales per customer (forecast index/ratio) of a business, another part of the business or a group of businesses as evidenced by:

- Tucker, Handbook of business formulas and controls (1979; Segmental Profit, Profit of a Sales Office, Profit of a Business Segment, Contribution of a Business Segment or Unit Pages 35, 41-44); and
- Pearce, Retail Marketing Management (1992; Pages 53, 70-75).

It would have been obvious to one skilled in the art at the time of the invention that the profit and performance management system, with its ability to collect, analyze, forecast and report on a plurality of business metrics (commodity sales, profit, etc.), as taught by Tenma et al. and Singh et al.; would have benefited from forecasting business performance a plurality of business performance metrics (sales, demand, profit, etc.) specifically comparing (forecast ratio) the average purchase per customer for a group of stores (past, present, future) to the average purchase per customer for a store in view of the teachings of Lam and official notice; the resultant system enabling multi-level businesses more efficiently plan and manage the business strategies by enhancing the systems information to include forecasted sales (demand) and profits (Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028) as well as enabling the multi-level business to more effectively plan and manage each level (store, shop, group, division, unit, district) of their business by forecasting demand and setting business performance goals for each level; the forecast/plan enabling managers at the various level of the business to more effectively manage and monitor their performance as well as their contribution to the overall business's performance (e.g. achievement of their objectives/goals).

15. Regarding Claim 7 the phrase "shop purchasing trend forecasting section" represents non-functional descriptive material since it is obvious in light of the prior art and to one skilled in the art that where (in what section, portion, subsystem routine, code, segment, object, etc.) the calculations are performed by the sales forecasting system or it's subsystems (components, sections, code, routines, etc.) does not change the overall functionality of the system.

Tenma et al. teach a profit management system and method wherein the system collects, analyzes and reports on a plurality of historical business performance data (commodity sales, purchase price, etc.) as discussed above.

Tenma et al. does not expressly teach that the profit management system is forecasts business metrics or calculates a forecast index/ratio by referring to past achievement of commodity sales when performing promotional activities as claimed and as shown below.

$$ForecastIndex\_Shop = f(historical\_data)$$

Singh et al. teach a sales forecasting system and method, in an analogous art of business performance management, for the purposes of proactively forecasting and planning of sales/demand across multiple levels of a supply chain (multi-level business;

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Paragraph 0002) based on historical data and further wherein the historical data includes promotional activities as discussed above.

It would have been obvious to one skilled in the art at the time of the invention that the profit management system, with its ability to collect, analyze and report on a plurality of business performance metrics (e.g. commodity sales, profits, etc.) based on historical business data, as taught by Tenma et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand, profit, historical promotional activity, etc.) in view of the teachings of Singh et al.; the resultant system enabling business to more effectively plan and manage their business by anticipating demand (e.g. forecasting sales and their impact on the business; Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028).

16. Regarding Claim 8 Tenma et al. teach a profit management system and method wherein the system collects, analyzes and reports on a plurality of historical performance data (sales, purchase price, number of customers/transactions, etc.) as discussed above.

Tenma et al. does not expressly teach that the profit management system forecasts business metrics or calculates the forecasted number of visitors of a shop based on (from) the forecasted shop sales and a forecasted average visitor purchase (unit price) utilizing historical data (past achievement) as claimed and as shown below:

$$Visitors\_Shop = f(CommoditySales\_Shop(historical\_data), AvgPurchase(historical\_data))$$

Singh et al. teach a sales forecasting system and method, in an analogous art of business management, for the purposes of proactively forecasting and planning of sales/demand across multiple levels of a supply chain (multi-level business; Paragraph 0002) based on historical data and further wherein the historical data includes promotional activities as discussed above.

It would have been obvious to one skilled in the art at the time of the invention that the profit management system, with its ability to collect, analyze and report on a plurality of business performance metrics (e.g. commodity sales, profits, etc.), as taught by Tenma et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand, profit, historical promotional activity, etc.) in view of the teachings of Singh et al.; the resultant system enabling business to more effectively plan and manage their business by anticipating demand (e.g. forecasting sales and their impact on the business; Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028).

Singh et al. does not expressly teach the calculation of a the forecasted number of visitors of a shop as claimed and as shown above.

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Lam teaches that average spending, the number of visitors to a store and store sales are key performance metrics, in an analogous art of store performance management, and that these performance metrics are calculated for the purposes of understanding a stores performance as well as the impact of sales promotional activities on store performance (e.g. profits, sales, store traffic, etc.; Pages 21-23; Equations 1-3; Figure 2 as shown above).

Specifically Lam teaches the average spending (purchase, sales per customer) is:

$$\text{average\_spending} = \frac{\text{store\_sales}}{\text{number\_transactions}}$$

or alternatively written, utilizing Lam's equations (1) and (2) as

$$\text{ratio} = \frac{(\text{UnitSales})}{(\text{Visitors / Traffic})}$$

Official notice is taken that the Lam's equations can readily utilized to calculate/determine the number of visitors to a store or group of stores utilizing the average spending (price, purchase) per customer and the total sales and further that determining the number of visitors to a store based on the average spending per customer and store sales is old and very well-known as evidenced by:

- Tucker, Handbook of business formulas and controls (1979; Segmental Profit, Profit of a Sales Office, Profit of a Business Segment, Contribution of a Business Segment or Unit Pages 35, 41-44); and
- Pearce, Retail Marketing Management (1992; Pages 53, 70-75).

The forecasted number of visitors (store traffic) enables businesses to plan staffing, inventory and other resource requirements in anticipation of the forecasted sales and number of customers.

It would have been obvious to one skilled in the art at the time of the invention that the profit management system, with its ability to collect, analyze, forecast and report on a plurality of business performance metrics (e.g. commodity sales, profits, etc.), as taught by the combination of Tenma et al. and Singh et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand, profit, etc.) including the calculation of the number of visitors based on average purchase per customer and store sales; the resultant system enabling a multi-level business to more effectively plan and manage each level (store, shop, group, division, unit, district) of their business by forecasting store traffic.

17. Regarding Claim 9 Tenma et al. teach a profit management system and method wherein the system collects, analyzing and reports on a plurality of business performance metrics/information (data, values, numbers, etc.) including but not limited

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to: number of products sold, product purchase price, commodity sales, point of sales transactions and the like. Tenma et al. further teach that the system's profit analysis is conducted for all levels (districts, groups, sections, portions, etc.) of a multi-level business including but not limited to: the entire business (headquarters), a group of stores, individual stores, individual store sections, departments, organizations, etc. (Abstract; Column 1, Lines 13-27; Column 2, Lines 55-67; Figures 2, 4, 18a-18c, as shown above).

Tenma et al. more specifically teaches the calculation of the total commodity sales for each of the plurality of levels in the multi-level business based on historical performance (past achievement) data (Column 4, Lines 35-40).

Tenma et al. does not expressly teach that the profit management system and method forecasts business metrics, calculates a forecasted total commodity sales for a group of shops (district), calculates a forecast ratio of the forecasted commodity sales per visitor in a unit (one shop, group of shops, etc.; e.g. average purchase per customer) to a forecasted commodity sales per visitor in a group of shops (district), or calculates a forecasted total commodity sales within a unit (unit district, advertising unit, one shop, group of shops, etc.) using the forecasted total commodity sales for a group of shops and forecast ratio as claimed and as shown below:

*TotalCommoditySales \_ GroupOfShops*



$$ForecastRatio = \frac{\left( \frac{CommoditySales\_Unit}{Visitors\_Unit} \right)}{\left( \frac{CommoditySales\_GroupOfShops}{Visitors\_GroupOfShops} \right)}$$

$$Total\_CommoditySales\_Unit = f(TotalCommoditySales\_GroupOfShops, ForecastRatio)$$

Singh et al. teach a sales forecasting system and method wherein members of the supply chain (multi-level business) utilize promotional activities (Abstract), in an analogous art of business performance management, for the purposes of proactively forecasting and planning of sales/demand across multiple levels of a supply chain (multi-level business; Paragraph 0002). More specifically Singh et al. teach forecasting the total sales for the multi-level business (e.g. total commodity sales for a group of shops) as discussed above.

It would have been obvious to one skilled in the art at the time of the invention that the profit management system, with its ability to collect, analyze and report on a plurality of business performance metrics (e.g. commodity sales, profits, etc.), as taught by Tenma et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand, profit, etc.) including but not limited to the forecasted total commodity sales in view of the teachings of Singh et al.; the resultant system enabling business to more effectively plan and manage their business by anticipating demand (e.g. forecasting sales and their impact on the business; Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028).

Singh et al. does not expressly teach calculating a forecast ratio or forecasted total commodity sales of a unit district based on a forecasted total sales number of a predetermined district and the forecast ratio as claimed and shown above.

Lam teaches that average spending, the number of visitors to a store and store sales are key performance metrics, in an analogous art of store performance management, and that these performance metrics are calculated for the purposes of understanding a stores performance as well as the impact of sales promotional activities on store performance (Pages 21-23; Equations 1-3; Figure 2 as shown above).

Additionally Lam teaches comparing the performance metrics of several stores for benchmarking retail/store performance (Page 93).

While both Tenma et al. and Lam teach the comparison of sales/profit data (e.g. product sales, store performance, etc.) neither Tenma et al. nor Lam expressly teach calculating a ratio (forecast ratio) of the average purchase per customer in a unit district to an average purchase per customer in a predetermined district as claimed and shown above.

Official notice is taken that it is old and very well-known to calculate a ratio (forecast ratio) wherein the ratio (proportion, percentage, index, fraction, etc.) compares the performance (past, present, future) of a part to a whole or to another part of a

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business; more specifically the sales per customer (forecast index) of a specified part (e.g. a single store, group of stores, division, person, etc.) to the sales per customer (forecast index) of another specified part of a business or group of businesses as evidenced by:

- Tucker, Handbook of business formulas and controls (1979; Segmental Profit, Profit of a Sales Office, Profit of a Business Segment, Contribution of a Business Segment or Unit Pages 35, 41-44); and
- Pearce, Retail Marketing Management (1992; Pages 53, 70-75).

Official notice is taken that the two calculations (equations) as claimed represent a **single** equation/calculation wherein one can readily convert/transform from one form of the equation into the other form of the equation utilizing basic mathematical operations (division and multiplying) as shown below:

$$(TotalCommoditySales\_ForGroupOfShops) = \frac{(TotalCommoditySales\_Unit)}{ForecastRatio}$$

alternatively written as:

$$CommoditySales\_ForGroupOfShops = f(TotalCommoditySales\_ForAShop, SalesRatio)$$

i.e. the function calculates the forecasted commodity sales (number, figure, amount, etc.) for a group of shops (unit district) using the total commodity sales per shop within a predetermined district and a forecast ratio.

It would have been obvious to one skilled in the art at the time of the invention that the profit and performance management system, with its collect, analyze, forecast and report on a plurality of business metrics (commodity sales, profit, etc.), as taught by Tenma et al. and Singh et al.; would have benefited from forecasting business performance a plurality of business performance metrics (sales, demand, profit, etc.) as well as comparing the performance of one or more specified business units/groups by calculating a ratio of (forecast ratio) the average purchase per customer for a unit district (e.g. group of stores) to the average purchase per customer for a stores in a predetermined district as well as calculating the forecasted total commodity sales based on the number of visitors and the forecast ratio in view of the teachings of Lam and official notice; the resultant system enabling multi-level businesses more efficiently plan and manage the business strategies by enhancing the systems information to include forecasted sales (demand) and profits (Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028) as well as enabling the multi-level business to more effectively plan and manage each level (store, shop, group, division, unit, district) of their business by forecasting demand and setting business performance goals for each level; the forecast/plan enabling managers at the various level of the business to more effectively manage and monitor their performance as well as their contribution to the overall business's performance (e.g. achievement of their objectives/goals).

18. Regarding Claim 10 Tenma et al. does not expressly teach that the multi-level business performs promotional activities as claimed.

Singh et al. teach a sales/demand forecasting method wherein members of the supply chain utilize promotional activities (Abstract), in an analogous art of business performance management, for the purposes of proactively forecasting and planning of sales/demand across multiple levels of a supply chain (multi-level business; Paragraph 0002).

It would have been obvious to one skilled in the art at the time of the invention that the profit management system, with its ability to collect, analyze and report on a plurality of business performance metrics (e.g. commodity sales, profits, etc.), as taught by Tenma et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand, profit, etc.) in view of the teachings of Singh et al.; the resultant system enabling business to more effectively plan and manage their business by anticipating demand (e.g. forecasting sales and their impact on the business; Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028).

Lam teaches the well-known use of marketing (promotions, advertising) in retail stores, in an analogous art of store/business management, for the purposes of analyzing the effects of promotional activities (signage, store layout, advertising, etc.) on

store performance (e.g. profit, sales, store traffic; Pages 1, 5, 14). Lam teaches that the importance and impact of promotional activities (e.g. a store, group of stores and/or businesses performing sales promotional activities via a plurality of advertising medium - television, newspaper, Internet, radio, billboard, etc.) on businesses is old, well-known and widely studied. Lam further teaches that the forecasting of store performance metrics (sales, traffic, volume, etc.) enables store managers to forecast/plan business activities such as staffing needs (Page 28).

It would have been obvious to one skilled at the time of the invention that the profit management system and method, with its ability to collect, analyze, forecast and report on a plurality of business performance metrics, as taught by the combination of Tenma et al. and Singh et al. would have benefited from including in its profit analysis and forecasts data related to the promotional activities of the plurality of stores, groups of stores and/or an entire business in view of the teachings of Lam; the resultant system providing additional insight into the performance and profit of the stores/business being analyzed as well as enhancing the data utilized for business planning/management (Tenma et al.: Column 3, Lines 55-60).

19. Regarding Claim 11 Tenma et al. teach a profit management system wherein a plurality of performance/business historical information/data (profits, commodity sales, etc.) for level (group, division, macro unit, store, shop, organization, etc.) is stored and accessed from a plurality of databases (data stores, storage medium, file, memory, etc.)

and used as the basis for the calculation (i.e. analysis) of a plurality of business performance metrics including but not limited to commodity sales for each level during a past term (period of time) for a multi-level business as discussed above.

Tenma et al. does not expressly teach that the profit management system forecasts business metrics or calculates the forecasted total commodity sales for a district based on historical data (reading past/historical commodity sales in the district from the storage device and calculating the forecasted total commodity sales for a district based on the historical data read) as claimed and as shown below.

$$\text{CommoditySales\_GroupOfShops} = f(\text{CommoditySales\_GroupOfShops}(\text{historical\_data}))$$

Singh et al. teach the forecasting of commodity sales and other business performance data (i.e. supply chain sales/demand forecasting and planning) based on historical data, in an analogous art of business performance management, for the purposes of proactively forecasting and planning of sales/demand across multiple levels of a supply chain (multi-level business; Paragraph 0002).

It would have been obvious to one skilled in the art at the time of the invention that the profit management system, with its ability to collect, analyze and report on a plurality of historical business performance metrics (e.g. commodity sales, profits, etc.), as taught by Tenma et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand, profit, etc.) based on historical data including but

not limited to forecasting commodity sales using historical data, in view of the teachings of Singh et al.; the resultant system enabling business to more effectively plan and manage their business by anticipating demand (e.g. forecasting sales and their impact on the business; Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028).

20. Regarding Claim 12 Tenma et al. teach a profit management system and method wherein historical (past) business performance data is collected, stored (in a plurality of databases), accessed/read, analyzed and reported on as discussed above.

Tenma et al. does not expressly teach that the profit management system and method forecasts business metrics or that the system calculates a forecast ratio (average sales per customer for a unit district to the average sales per customer for a predetermined district) further comprises reading data of the ratio of the commodity sales per visitor in a unit to the commodity sales per visitor in a group of shops (predetermined district) using historical data as claimed and shown below.

$$\text{ForecastRatio} = \frac{\left( \frac{\text{CommoditySales\_Unit(historical\_data)}}{\text{Visitors\_Unit(historical\_data)}} \right)}{\left( \frac{\text{CommoditySales\_GroupOfShops(historical\_data)}}{\text{Visitors\_GroupOfShops(historical\_data)}} \right)}$$

Singh et al. teach the forecasting of commodity sales and other business performance data (i.e. supply chain sales/demand forecasting and planning) based on



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historical data, in an analogous art of business management, for the purposes of proactively forecasting and planning of sales/demand across multiple levels of a supply chain (multi-level business; Paragraph 0002).

It would have been obvious to one skilled in the art at the time of the invention that the profit management system, with its ability to collect, analyze and report on a plurality of business performance metrics (e.g. commodity sales, profits, etc.), as taught by Tenma et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand, profit, etc.) based on historical data including but not limited to forecasting commodity sales using historical data, in view of the teachings of Singh et al.; the resultant system enabling business to more effectively plan and manage their business by anticipating demand (e.g. forecasting sales and their impact on the business; Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028).

Singh et al. does not expressly teach calculation of a forecast ratio (average sales per customer for a unit district to the average sales per customer for a predetermined district) as claimed.

Lam teaches that average spending, the number of visitors to a store and store sales are key performance metrics, in an analogous art of store performance management, and that these performance metrics are calculated for the purposes of

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understanding a stores performance as well as the impact of sales promotional activities on store performance (Pages 21-23; Equations 1-3; Figure 2 as shown above).

Additionally Lam teaches comparing the performance metrics of several stores for benchmarking retail/store performance (Page 93).

While both Tenma et al. and Lam teach the comparison of sales/profit data (e.g. product sales, store performance, etc.) neither Tenma et al. nor Lam expressly teach calculating a ratio (forecast ratio) of the average purchase per customer in a unit district to an average purchase per customer in a predetermined district as claimed and shown above.

Official notice is taken that it is old and very well-known to calculate a ratio (forecast ratio) wherein the ratio (proportion, percentage, index, fraction, etc.) compares the performance (past, present, future) of a part to a whole or to another part of a business; more specifically the sales per customer (forecast index) of a specified part (e.g. a single store, group of stores, division, person, etc.) to the sales per customer (forecast index) of another specified part of a business or group of businesses as evidenced by:

- Tucker, Handbook of business formulas and controls (1979; Segmental Profit, Profit of a Sales Office, Profit of a Business Segment, Contribution of a Business Segment or Unit Pages 35, 41-44); and
- Pearce, Retail Marketing Management (1992; Pages 53, 70-75).

It would have been obvious to one skilled in the art at the time of the invention that the profit and performance management system, with its collect, analyze, forecast and report on a plurality of business metrics (commodity sales, profit, etc.), as taught by Tenma et al. and Singh et al.; would have benefited from forecasting business performance a plurality of business performance metrics (sales, demand, profit, etc.) as well as comparing the performance of one or more specified business units/groups by calculating a ratio of (forecast ratio) the average purchase per customer for a unit district (e.g. group of stores) to the average purchase per customer for a stores in a predetermined district as well as calculating the forecasted total commodity sales based on the number of visitors and the forecast ratio in view of the teachings of Lam and official notice; the resultant system enabling multi-level businesses more efficiently plan and manage the business strategies by enhancing the systems information to include forecasted sales (demand) and profits (Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028) as well as enabling the multi-level business to more effectively plan and manage each level (store, shop, group, division, unit, district) of their business by forecasting demand and setting business performance goals for each level; the forecast/plan enabling managers at the various level of the business to more effectively manage and monitor their performance as well as their contribution to the overall business's performance (e.g. achievement of their objectives/goals).

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21. Regarding Claim 13 the computer program product for commodity sales forecasting as claimed is merely **configured to determine and/or collect a forecast ratio and a forecast value** but does not actually perform the calculations or collection/acquisition of that data. For the purposes of examination examiner assumes the applicant will amend the claim to recite that system actually calculates and collects a forecast ratio and a forecast value.

Further the phrases "first unit", "second unit" and "third unit" represent non-functional descriptive material since it is obvious in light of the prior art and to one skilled in the art that where (in what section, portion, subsystem routine, code, segment, object, etc.) the calculations are performed by the sales forecasting system or it's subsystems (components, sections, code, routines, etc.) does not change the overall functionality of the system.

Tenma et al. teach a profit management system and method wherein the system collects, analyzing and reports on a plurality of business performance metrics/information (data, values, numbers, etc.) including but not limited to: number of products sold, product purchase price, commodity sales and the like to various levels of management and further wherein the profit analysis is conducted for all levels (districts, groups, sections, portions, etc.) of a multi-level business including but not limited to the entire business (headquarters), a group of stores, individual stores, individual store sections and the like (Abstract; Column 1, Lines 13-27; Column 2, Lines 55-67; Figures 2, 4, 18a-18c as shown above).

Tenma et al. more specifically teaches the calculation of the total commodity sales for each of the plurality of levels in the multi-level business based on historical performance (past achievement) data as discussed above.

Tenma et al. does not expressly teach that the profit management system and method forecasts business metrics, calculates a forecast ratio of the commodity sales (selling) index at a shop (e.g. average sales per customer for a shop) to the commodity sales index of a unit district to which the shop belongs (group of shops; e.g. average sales per customer for a group of shops), acquiring (collecting, retrieving, etc.) a forecast value of the commodity sales index at a shop, calculates a forecast value of the commodity sales index at a shop from the forecast value of the acquired forecast value of the commodity sales index at a shop and the calculated forecast ratio, or calculates the forecasted commodity sales of the shop based on the forecast value as claimed and shown below:

$$ForecastRatio = \frac{CommoditySalesIndex\_Shop}{CommoditySalesIndex\_GroupOfShops}$$

$$CommoditySales\_Shop_{acquired}$$

$$CommoditySalesIndex\_Shop = f(CommoditySales\_Shop_{acquired}, ForecastRatio)$$

$$CommoditySales\_Shop = f(CommoditySalesIndex\_Shop)$$

Singh et al. teach a sales forecasting system and method wherein members of the supply chain utilize promotional activities (Abstract), in an analogous art of business performance management, for the purposes of proactively forecasting and planning of sales/demand across multiple levels of a supply chain (multi-level business; Paragraph 0002). More specifically Singh et al. teach forecasting the total sales for the multi-level business (e.g. total commodity sales for a group of shops) as discussed above.

It would have been obvious to one skilled in the art at the time of the invention that the profit management system, with its ability to collect, analyze and report on a plurality of business performance metrics (e.g. commodity sales, profits, etc.), as taught by Tenma et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand, profit, etc.) including but not limited to the forecasted total commodity sales in view of the teachings of Singh et al.; the resultant system enabling business to more effectively plan and manage their business by anticipating demand (e.g. forecasting sales and their impact on the business; Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028).

Singh et al. does not expressly teach calculating a forecast ratio, acquiring a forecast value of a commodity selling index or calculating a forecast value of the commodity selling index using the acquired forecast value and the forecast ratio or

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calculating forecasted commodity sales based on the forecast value as claimed and shown above.

Lam teaches that average spending, the number of visitors to a store and store sales are key performance metrics, in an analogous art of store performance management, and that these performance measurements are calculated for the purposes of understanding a stores performance as well as the impact of sales promotional activities on store performance (Pages 21-23; Equations 1-3; Figure 2 as shown above).

Additionally Lam teaches comparing the performance metrics of several stores for benchmarking retail/store performance (Page 93).

While both Tenma et al. and Lam teach the comparison of sales/profit data (e.g. product sales, store performance, etc.) neither Tenma et al. nor Lam expressly teach calculating a ratio (forecast ratio) of the average purchase per customer in a unit district to an average purchase per customer in a predetermined district as claimed and shown above.

Official notice is taken that it is old and very well-known to calculate a ratio (forecast ratio, proportion, percentage, index, fraction, etc.) for the purposes of comparing the performance (past, present, future) of a part to a whole; i.e. to compare one part of a business or to another part of a business or group of businesses such as

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comparing the specifically the sales per customer (forecast index/ratio) of a specified part (e.g. a single store, group of stores, division, person, etc.) to the sales per customer (forecast index/ratio) of another specified part of a business or group of businesses as evidenced by:

- Tucker, Handbook of business formulas and controls (1979; Segmental Profit, Profit of a Sales Office, Profit of a Business Segment, Contribution of a Business Segment or Unit Pages 35, 41-44); and

- Pearce, Retail Marketing Management (1992; Pages 53, 70-75).

Official notice is taken that the two calculations (equations) as claimed represent a **single** equation/calculation wherein one can readily convert/transform from one form of the equation into the other form of the equation utilizing basic mathematical operations (division and multiplying) as shown below:

$$(TotalCommoditySales\_ForGroupOfShops) = \frac{(TotalCommoditySales\_Unit)}{ForecastRatio}$$

alternatively written as:

$$CommoditySales\_ForGroupOfShops = f(TotalCommoditySales\_ForAShop, SalesRatio)$$

i.e. the function calculates the forecasted commodity sales (number, figure, amount, etc.) for a group of shops (unit district) using the total commodity sales per shop within a predetermined district and the forecast ratio.



It would have been obvious to one skilled in the art at the time of the invention that the profit and performance management system, with its collect, analyze, forecast and report on a plurality of business metrics (commodity sales, profit, etc.), as taught by Tenma et al. and Singh et al.; would have benefited from forecasting business performance a plurality of business performance metrics (sales, demand, profit, etc.) as well as comparing the performance of a one or more groups (units, districts, regions, etc.) within a business by calculating a ratio of (forecast ratio/index) the average purchase per customer for a unit district (e.g. group of stores) to the average purchase per customer for a stores in a predetermined district as well as calculating the forecasted total commodity sales based on the number of visitors and the forecast ratio in view of the teachings of Lam and official notice; the resultant system enabling multi-level businesses more efficiently plan and manage the business strategies by enhancing the systems information to include forecasted sales (demand) and profits (Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028) as well as enabling the multi-level business to more effectively plan and manage each level (store, shop, group, division, unit, district) of their business by forecasting demand and setting business performance goals for each level; the forecast/plan enabling managers at the various level of the business to more effectively manage and monitor their performance as well as their contribution to the overall business's performance (e.g. achievement of their objectives/goals).

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22. Regarding Claim 14 Tenma et al. does not expressly teach the calculation of the commodity selling (sales) index (ratio; average purchase per customer) as claimed and shown below:

$$\text{CommoditySalesIndex}_{\text{Shop}} = \frac{\text{CommoditySales}_{\text{Shop}}}{\text{Visitors}}$$

Lam teaches that average spending, the number of visitors to a store and store sales are key performance metrics, in an analogous art of store performance management, and that these performance measurements are calculated for the purposes of understanding a stores performance as well as the impact of sales promotional activities on store performance (Pages 21-23; Equations 1-3; Figure 2 as shown above).

Additionally Lam teaches comparing the performance metrics of several stores for benchmarking retail/store performance (Page 93).

While both Tenma et al. and Lam teach the comparison of sales/profit data (e.g. product sales, store performance, etc.) neither Tenma et al. nor Lam expressly teach calculating a ratio (forecast ratio) of the average purchase per customer in a unit district to an average purchase per customer in a predetermined district as claimed and shown above.

Official notice is taken that it is old and very well-known to calculate a ratio (forecast ratio, proportion, percentage, index, fraction, etc.) for the purposes of comparing the performance (past, present, future) of a part to a whole; i.e. to compare one part of a business or to another part of a business or group of businesses such as comparing the specifically the sales per customer (forecast index/ratio) of a specified part (e.g. a single store, group of stores, division, person, etc.) to the sales per customer (forecast index/ratio) of another specified part of a business or group of businesses as evidenced by:

- Tucker, Handbook of business formulas and controls (1979; Segmental Profit, Profit of a Sales Office, Profit of a Business Segment, Contribution of a Business Segment or Unit Pages 35, 41-44); and
- Pearce, Retail Marketing Management (1992; Pages 53, 70-75).

It would have been obvious to one skilled in the art at the time of the invention that the profit and performance management system, with its collect, analyze, forecast and report on a plurality of business metrics (commodity sales, profit, etc.), as taught by Tenma et al. and Singh et al.; would have benefited from forecasting business performance a plurality of business performance metrics (sales, demand, profit, etc.) as well as comparing the performance of a one or more groups (units, districts, regions, etc.) within a business by calculating a ratio of (forecast ratio/index) the average purchase per customer for a unit district (e.g. group of stores) to the average purchase per customer for a stores in a predetermined district as well as calculating the

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forecasted total commodity sales based on the number of visitors and the forecast ratio in view of the teachings of Lam and official notice; the resultant system enabling multi-level businesses more efficiently plan and manage the business strategies by enhancing the systems information to include forecasted sales (demand) and profits (Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028) as well as enabling the multi-level business to more effectively plan and manage each level (store, shop, group, division, unit, district) of their business by forecasting demand and setting business performance goals for each level; the forecast/plan enabling managers at the various level of the business to more effectively manage and monitor their performance as well as their contribution to the overall business's performance (e.g. achievement of their objectives/goals).

23. Regarding Claim 15 the computer program product for commodity sales forecasting system as claimed is merely **configured to** determine, display and calculate a selling index and **configured to** enable the modification of the calculated result but does not actually perform the display, modification or calculation operations as claimed. For the purposes of examination examiner assumes the applicant will amend the claim to recite that system actually performs the display, modification or calculation operations as claimed.

Tenma et al. teach a profit management system and method wherein the system collects, stores, analyzes, displays and reports a plurality of business performance

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information (commodity sales, profit, etc.) for each level (group, unit, division, organization) of a multi-level business as discussed above. More specifically Tenma et al. teach a graphical user interface for interacting with the user of the system (i.e. displaying information, receiving commands, data, input and the like; Columns 19-21, Figures 15a, 18a-18c).

Tenma et al. does not expressly teach the calculation or subsequent display of the commodity-selling index (e.g. average sales per customer) or enabling the user to modify the calculated results.

Singh et al. teach a graphical user interface for interacting with the user, displaying a plurality of forecasted sales/demand and enabling the user to modify (update, override) a plurality of calculated results (Paragraph 0081, Figure 6, Element 605), in an analogous art of business management, for the purposes enabling the user to override (adjust, update, modify, edit) errant data that would skew the sales/demand forecasts (Paragraphs 0081, 0101-0103; Figures 3, 4a-4d).

It would have been obvious to one skilled in the art at the time of the invention that the profit management system, with graphical user interface and its ability to collect, analyze and report on a plurality of business performance metrics (e.g. commodity sales, profits, etc.), as taught by Tenma et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand, profit, etc.) such as the

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forecasted total commodity sales and enabling users to override errant data that would skew the calculated forecasts in view of the teachings of Singh et al.; the resultant system enabling business to more effectively and accurately (e.g. by the removal of errant data) plan and manage their business by anticipating demand (e.g. forecasting sales and their impact on the business; Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028).

Singh et al. does not expressly teach the calculation of the commodity selling index as claimed and shown above.

Lam teaches that average spending (commodity selling index), the number of visitors to a store and store sales are key performance metrics, in an analogous art of store performance management, and that these performance measurements are calculated for the purposes of understanding a stores performance as well as the impact of sales promotional activities on store performance (Pages 21-23; Equations 1-3; Figure 2 as shown above).

Additionally Lam teaches comparing the performance metrics of several stores for benchmarking retail/store performance (Page 93).

It would have been obvious to one skilled in the art at the time of the invention that the profit and performance management system, with its collect, analyze, forecast and report on a plurality of business metrics (commodity sales, profit, etc.), as taught by

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Tenma et al. and Singh et al.; would have benefited from forecasting business performance a plurality of business performance metrics (sales, demand, profit, etc.) including calculating the average purchase per customer (commodity selling index) in view of the teachings of Lam and official notice; the resultant system enabling multi-level businesses more efficiently plan and manage the business strategies by enhancing the systems information to include forecasted sales (demand) and profits (Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028).

24. Regarding Claim 16 Tenma et al. teach a profit management system and method wherein a plurality of historical business metrics (sales, purchases, etc.) are collected, stored, analyzed and reported on as discussed above.

Tenma et al. does not expressly teach that the profit management system forecasts business metrics, calculates a forecast ratio based on historical data for a predetermined commodity or commodity similar to the predetermined commodity and an achievement ratio of the commodity selling index (e.g. average purchase per customer) at a shop to the commodity selling index to a group of shops as claimed and shown below:

$$AchievementRatio = \frac{CommoditySalesIndex\_Shop}{CommoditySalesIndex\_GroupOfShops}$$

Singh et al. teach a sales forecasting system and method wherein members of the supply chain (multi-level business) utilize promotional activities (Abstract), in an analogous art of business performance management, for the purposes of proactively forecasting and planning of sales/demand across multiple levels of a supply chain (multi-level business; Paragraph 0002). More specifically Singh et al. teach forecasting the total sales for the multi-level business (e.g. total commodity sales for a group of shops) as discussed above.

It would have been obvious to one skilled in the art at the time of the invention that the profit management system, with its ability to collect, analyze and report on a plurality of business performance metrics (e.g. commodity sales, profits, etc.), as taught by Tenma et al.; would have benefited from forecasting a plurality of business performance metrics (sales, demand, profit, etc.) including but not limited to the forecasted total commodity sales in view of the teachings of Singh et al.; the resultant system enabling business to more effectively plan and manage their business by anticipating demand (e.g. forecasting sales and their impact on the business; Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028).

Singh et al. does not expressly teach calculating a forecast ratio or achievement ratio as claimed and shown above.



Lam teaches that average spending, the number of visitors to a store and store sales are key performance metrics, in an analogous art of store performance management, and that these performance metrics are calculated for the purposes of understanding a stores performance as well as the impact of sales promotional activities on store performance (Pages 21-23; Equations 1-3; Figure 2 as shown above).

Additionally Lam teaches comparing the performance metrics of several stores for benchmarking retail/store performance (Page 93).

While both Tenma et al. and Lam teach the comparison of sales/profit data (e.g. product sales, store performance, etc.) neither Tenma et al. nor Lam expressly teach calculating a ratio (forecast ratio, achievement ratio) utilizing the average purchase per customer for a shop to an average purchase per customer in a predetermined group of shops as claimed and shown above.

Official notice is taken that it is old and very well-known to calculate a ratio (forecast ratio) wherein the ratio (proportion, percentage, index, fraction, etc.) compares the performance (past, present, future) of a part to a whole or to another part of a business; more specifically the sales per customer (forecast index, achievement ratio) of a predetermined commodity in a specified store to the sales per customer (forecast index, achievement ratio) of a specified commodity in another specified part of a business or group of businesses as evidenced by:

- Tucker, Handbook of business formulas and controls (1979; Segmental Profit, Profit of a Sales Office, Profit of a Business Segment, Contribution of a Business Segment or Unit Pages 35, 41-44); and
- Pearce, Retail Marketing Management (1992; Pages 53, 70-75).

Official notice is taken that using data from similar products (commodities) to forecast/predict/estimate business metrics related to a commodity is old and well know. For example when introducing a new product to the market businesses frequently use historical data from similar products in order to predict things such as sales, customer response and the like. This information is vital to planning the product's launch and since there is no data available on the new product (since it has never been introduced before) the use of similar products helps business to more accurately model the new product's performance.

It would have been obvious to one skilled in the art at the time of the invention that the profit and performance management system, with its collect, analyze, forecast and report on a plurality of business metrics (commodity sales, profit, etc.), as taught by Tenma et al. and Singh et al.; would have benefited from forecasting business performance a plurality of business performance metrics (sales, demand, profit, etc.), comparing the forecasted performance (e.g. average sales per customer per location) of a particular product based on historical data for that product or similar products and comparing the performance of one or more specified business units/groups and/or products by calculating a ratio of (forecast ratio, achievement ratio) the average

purchase per customer for a shop to the average purchase per customer for a group of stores (district as well as calculating the forecasted total commodity sales based on the number of visitors and the forecast ratio in view of the teachings of Lam and official notice; the resultant system enabling multi-level businesses more efficiently plan and manage the business strategies by enhancing the systems information to include forecasted sales (demand) and profits (Tenma et al.: Column 3, Lines 55-60; Singh et al.: Paragraph 0028) as well as enabling the multi-level business to more effectively plan and manage each level (store, shop, group, division, unit, district) of their business by forecasting demand and setting business performance goals for each level; the forecast/plan enabling managers at the various level of the business to more effectively manage and monitor their performance as well as their contribution to the overall business's performance (e.g. achievement of their objectives/goals).

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Vishnubhotla, Prasad R., U.S. Patent No. 6,636,860, teaches a system and method forecasting commodity sales based on a plurality of commodity sales data including but not limited to store (site) traffic (e.g. "Predict sales revenue for an e-commerce business enterprise from any new shopper."; "how incentive campaigns affect sales revenues for customers") utilizing IBM's Intelligent Miner data mining system/application.

- Bios Group, LP, WO 00/67191, teaches an Internet-based system and method for commodity sales forecasting at different hierarchical levels including product,

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regional (store, local, state, regional, national, continental and global) and temporal hierarchies.

- Nomura Sogo Kenkyusho KK, JP 2002-324160A, teaches a system and method that forecasts commodity sales in a shop (store).

- Nomura Sogo Kenkyusho KK, JP 10240799A, teaches commodity sales forecasting/estimating system and method that estimates sales based on the hierarchical classification of store data.

- NEC Corp., JP 08314888A, teaches a method and system for forecasting sales and profits at a store based on a plurality of conditions/parameters including but not limited to store traffic.

- Hitachi, Ltd., JP 08278959A, teaches a system and method for forecasting/predicting commodity sales for supermarkets, department stores and the like wherein the stores are conducting advertising/promotional campaigns.

- Cornin, Joseph, Determinants of Retail Profit Performance (1985) teaches a method for selecting one of a plurality of marketing strategies in order to maximize/optimize retail profits/sales utilizing a plurality of predictor parameters/variables including but not limited to sales growth, market share and relative promotional effect.

- Rockney, Walters et al., A Structural Equations Analysis of the Impact of Price Promotions on Store Performance (1988) teaches a method for examining the impact advertising (e.g. price promotions) have on key store performance metrics such as store traffic, sales, profit and the like.

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- Rockney, Walters, Retail Promotions and Retail Store Performance (1988)

teaches the importance and impact of advertising on key store performance metrics including but not limited to store traffic, sales and profit.

- Levinson, Meridith, The Know What You'll Buy Next Summer (2002) teaches the widespread utilization of sales forecasting at all levels of the retail industry.

- Uhr, J. Becker et al., Retail Information Systems Based on SAP Products (2001) teaches the utilization of a well-known system to support a plurality of retail management functions including but not limited to commodity sales forecasting.

- Achabal, Dale et al., A Decision Support System for Vendor Managed Inventory (2000) teaches an expert system for forecasting commodity sales at each shop for the commodity sold in a group of shops within a predetermined region (area, district) further comprising determining sales forecasts at each shop by distributing the commodity sales number to each shop. Achabal further teaches that the expert sales forecasting system takes into account promotional effects and uses a top-down approach to allocated the total forecasted sales for each product at each store/retailer.

- E3 Corp. Acquires Market Data Solutions, Inc. and eMillenium Inc. To Take Demand-based Inventory Forecasting to the Next Level (2000) teaches the commercial availability of a plurality of sales forecasting systems wherein the systems forecast commodity sales for each store in a group of stores and enable "a retailer to be very responsive to individual store promotions" and gives retailers a "clearer understanding of how products sell across the entire chain of stores."

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- Gertler, Peter, Technology: learning to manage information overload (1990) teaches the widespread utilization of system for a plurality of business functions in the retail industry including but not limited to sales forecasting and replenishment systems. Gertler further teaches a system and method for forecasting commodity sales at a each store in a group of stores (i.e. Mrs. Fields Cookies' Day Planner System) wherein the expert system provides detailed sales forecasts/projections (e.g. numbers of cookies to make, sell per customer, customer traffic/volume, etc.) as we as takes into account the effect of promotional activities on sales forecasts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott L. Jarrett whose telephone number is (571) 272-7033. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hafiz Tariq can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to be 'SJ'.

SJ

11/04/2005

A handwritten signature in black ink, appearing to be 'TARIQ R. HAFIZ'.

TARIQ R. HAFIZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600